

# Notice of Allowability

Application No.

09/739,790

Examiner

Tony Mahmoudi

Applicant(s)

SUGINOSHITA ET AL

Art Unit

2165

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 10-January-2005.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☒ The drawings filed on 20 December 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 20050329.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
**CHARLES RONES**  
PRIMARY EXAMINER

## **DETAILED ACTION**

### ***Remarks***

1. In response to the Amendment filed on 10-January-2005, claims 1-11 have been amended per applicant's request.
2. In view of the examiner's amendment, authorized by the Attorney of Record on 29-March-2005, claims 1-7 and 8-11 are amended by the examiner (details provided below.) Claims 1-11 are presently pending in the application.

### ***Examiner's Amendment***

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview (followed by an e-mail) with Mr. Carl I. Brundidge (Attorney of Record) on 29-March-2005 (see enclosed Interview Summary dated 20050329, for details.)

The claims have been amended by the examiner as follows. This listing of claims will replace all prior versions, and listings of claims in the Application:

Art Unit: 2165

1. (Currently amended) A database system comprising:

a master database to be updated;

a replica ~~for storing~~ that stores a duplicate of said master database;

a preferential order information memory unit ~~for holding~~ that holds preferential order information indicating a preferred order of updating either one of a specific database table, preferential table columns and preferential keys of a column with respect to update data of said master database on said replica,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order;

an allocation unit ~~for reading~~ that reads said update data and extracting said update data according to said preferential order information in such a manner that the update data with higher preferential order is extracted earlier than the update data with lower preferential order; and

a management unit ~~for updating~~ that updates said replica with said update data in the extracted order.

2. (Currently amended) A database system comprising:

a master database to be updated;

a replica ~~for storing~~ that stores a duplicate of said master database;

Art Unit: 2165

a preferential order acquiring unit ~~for receiving~~ that receives preferential order information indicating a preferred order of updating preferential table columns of said master database to be applied when update data of said master database is reflected on said replica and ~~for acquiring~~ that acquires said preferential order information,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order;

an allocation unit ~~for reading~~ that reads said update data and, ~~extracting~~ extracts said update data according to said preferential order information in such a manner that the update data with higher preferential order of said table column is extracted earlier than the update data with lower preferential order of said table columns; and

a management unit for updating that updates said replica with said update data in the extracted order.

3. (Currently amended) A database system comprising:

a master database to be updated;

a replica ~~for storing~~ that stores ~~the~~ a duplicate of said master database;

a history acquiring unit ~~for recording~~ that records use history of said replica; and

an updating unit ~~for receiving~~ that receives update data of said master database and updating updates said replica with preference based on a preferred order of updating of table columns of said master database corresponding to said use history,

Art Unit: 2165

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order.

4. (Currently amended) A database system comprising:

a master database to be updated;

a replica ~~for storing~~ that stores a duplicate of said master database;

a first control unit, provided in said master database side, ~~for extracting~~ that extracts update data according to stored preferential order information indicating a preferred order of updating a specific database table of said master database of said update data to be updated,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order,

wherein said first control unit extracts update data in such a manner that the update data with higher preferential order of said database table is executed earlier than the update data with lower preferential order of said database table and transfers said update data to a communication means; and

a second control unit, provided in said replica side, ~~for receiving~~ that receives said update data transferred from said communication means, for extracting from said update data according to stored preferential order information of table columns of said database table to be updated,

Art Unit: 2165

wherein said second control unit extracts update data in such a manner that the update data with higher preferential order of said table columns is executed earlier than the update data with lower preferential order of said table columns, and for updating said replica with said update data based on the extracted order.

5. (Currently amended) A database system comprising:

a master database to be updated;

a replica ~~for storing~~ that stores a duplicate of said master database;

a first control unit, provided in said master database, ~~for transferring~~ that transfers update data to a communication means; and

a second control unit, provided in said replica side, ~~for receiving~~ that receives said update data transferred from said communication means, ~~extracting~~ extracts from said update data according to stored preferential order information indicating a preferred order of updating of preferential table columns of said master database of said update data to be updated,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order,

wherein said second control unit extracts update data in such a manner that the update data with higher preferential order of said table columns is executed earlier than the update data with lower preferential order of said table columns, and for updating said replica with said update data based on the extracted order.

Art Unit: 2165

6. (Currently amended) A database system comprising:

a master database to be updated;

a plurality of replicas ~~for storing~~ that store a duplicate of said master database;

a first control unit, provided in said master database side, ~~for transferring~~ that transfers update data in a selected order; and

a second control unit, provided in each of said replica side, ~~for receiving~~ that receives said update data transferred, for extracting from said update data according to stored preferential order information indicating a preferred order of updating of preferential keys of a column of a database table of said update data to be updated,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order,

wherein said second control unit extracts update data in such a manner that the update data with higher preferential order of said keys is executed earlier than the update data with lower preferential order of said keys, and for updating said replica with said update data based on the extracted order.

7. (Currently amended) A database system comprising:

a master database ~~for storing~~ that stores a plurality of types of data;

a master database management unit ~~for updating~~ that updates said master database in an order of occurrence of an update request according to said data update request to said master database;

Art Unit: 2165

an update log file ~~for storing~~ that stores update log of said master database in the order of updating of said master database;

an update log reading unit ~~for reading~~ that reads out said update log from said log file;

a data allocation unit ~~for extracting~~ that extracts update data in an order according to preferential order information indicating a preferred order of updating of preferential table columns of said master database of said update data in said update log read by said update log reading unit,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order;

a replica ~~for storing~~ that stores the duplicate of data stored in said master database; and

a replica database management unit ~~for writing~~ that writes said update data extracted by means of said data allocation unit in said replica in said order of extraction.

8. (Previously presented) A method for forming a replica of a database in a system having a master database to be updated and a replica thereof, the method comprising steps of:

holding preferential order information indicating a preferred order of updating of preferential table columns of said master database that are to be applied when update data of said master database is reflected on said replica,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order;



Art Unit: 2165

reading said update data;

extracting said update data according to said preferential order information in such a manner that the update data with higher preferential order of said table columns is executed earlier than the update data with lower preferential order of said table columns; and

updating said replica with said update data in the extracted order.

9. (Currently amended) A method for forming a replica of a database in a system having a master database to be updated and a replica thereof, the method comprising steps of:

extracting update data according to stored preferential order information indicating a preferred order of updating a specific database table of said master database to be updated on said master database side,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order;

wherein said extracting update data step is performed in such a manner that the update data with higher preferential order of said database table is executed earlier than the update data with lower preferential order of said database table;

transferring said update data to a communication means in the extracted order;

receiving said update data transferred from the communication means on said replica side; and

Art Unit: 2165

extracting said update data according to stored preferential order information indicating a preferred order of update of preferential keys of a column of said database table to be updated,

wherein said extracting update data is performed in such a manner that the update data with higher preferential order of said keys is executed earlier than the update data with lower preferential order of said keys; and

updating said replica thereby.

10. (Currently amended) A method for forming a replica of a database in a system having a master database to be updated and a replica thereof, the method comprising steps of:

storing preferential keys of a column of a table within said master database of update data of said master database that is to be reflected preferentially according to a preferred order on said replica,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order;

reading said update data;

extracting said update data according to stored preferential order of update of said keys in such a manner that the update data with higher preferential order of said keys is executed earlier than the update data with lower preferential order of said keys; and

updating said replica with said update data in the extracted order.

Art Unit: 2165

11. (Currently amended) A computer-readable recording medium having a recorded program for forming a replica of a master database to be updated, the program comprising steps of:

holding preferential order information indicating a preferred order of updating of preferential table columns of said master database that are to be applied when update data of said master database is reflected on said replica,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order;

reading said update data;

extracting said update data according to said preferential order information in such a manner that the update data with higher preferential order of said table columns is executed earlier than the update data with lower preferential order of said table columns; and

updating said replica with said update data in the extracted order.

*Allowance*

4. Claims 1-11 are allowed over the prior art made of record.

5. The following is an examiner's statement of reasons for allowance:

Art Unit: 2165

The applicant's amendment, filed on 10-January-2005, and the Examiner's Amendment authorized by the attorney of record on 29-March-2005, overcome the cited prior art with respect to the independent claims.

The prior art of record, Kodama (U.S. Patent No. 6,374,262), Nakai et al (U.S. Patent No. 5,954,803), and Mullen (U.S. Patent No. 6,272,544), and Kawagoe (U.S. Patent No. 6,438,563), do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim):

a preferential order information memory unit that holds preferential order information indicating a preferred order of updating either one of a specific database table, preferential table columns and preferential keys of a column with respect to update data of said master database on said replica,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order, as claimed in claim 1.

a preferential order acquiring unit that receives preferential order information indicating a preferred order of updating preferential table columns of said master database to be applied when update data of said master database is reflected on said replica and that acquires said preferential order information,

Art Unit: 2165

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order, as claimed in claim 2.

an updating unit that receives update data of said master database and updates said replica with preference based on a preferred order of updating of table columns of said master database corresponding to said use history,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order, as claimed in claim 3.

a first control unit, provided in said master database side, that extracts update data according to stored preferential order information indicating a preferred order of updating a specific database table of said master database of said update data to be updated,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order,

a second control unit, provided in said replica side, that receives said update data transferred from said communication means, for extracting from said update data according to stored preferential order information of table columns of said database table to be updated,

Art Unit: 2165

wherein said second control unit extracts update data in such a manner that the update data with higher preferential order of said table columns is executed earlier than the update data with lower preferential order of said table columns, and for updating said replica with said update data based on the extracted order, as claimed in claim 4.

a second control unit, provided in said replica side, that receives said update data transferred from said communication means, extracts from said update data according to stored preferential order information indicating a preferred order of updating of preferential table columns of said master database of said update data to be updated,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order, as claimed in claim 5.

a second control unit, provided in each of said replica side, that receives said update data transferred, for extracting from said update data according to stored preferential order information indicating a preferred order of updating of preferential keys of a column of a database table of said update data to be updated,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order,

Art Unit: 2165

wherein said second control unit extracts update data in such a manner that the update data with higher preferential order of said keys is executed earlier than the update data with lower preferential order of said keys, and for updating said replica with said update data based on the extracted order, as claimed in claim 6.

a data allocation unit that extracts update data in an order according to preferential order information indicating a preferred order of updating of preferential table columns of said master database of said update data in said update log read by said update log reading unit,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order, as claimed in claim 7.

holding preferential order information indicating a preferred order of updating of preferential table columns of said master database that are to be applied when update data of said master database is reflected on said replica,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order, as claimed in claim 8.

Art Unit: 2165

extracting update data according to stored preferential order information indicating a preferred order of updating a specific database table of said master database to be updated on said master database side,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order, as claimed in claim 9.

storing preferential keys of a column of a table within said master database of update data of said master database that is to be reflected preferentially according to a preferred order on said replica,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order, as claimed in claim 10.

holding preferential order information indicating a preferred order of updating of preferential table columns of said master database that are to be applied when update data of said master database is reflected on said replica,

wherein said preferred order indicates a predefined order of updating particular update data having a higher preferential order prior to updating update data having a lower preferential order, as claimed in claim 11.



Art Unit: 2165


*Conclusion*

6. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Tony Mahmoudi whose telephone number is (571) 272-4078. The examiner can normally be reached on Mondays-Fridays from 08:00 am to 04:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici, can be reached at (571) 272-4083.

tm

March 31, 2005

  
CHARLES RONES  
PRIMARY EXAMINER